

CLAIMS

1. Control system for a plurality of mechanical units, namely robots (1,2) and/or external axes (3), comprising manually-
5 operated control means (5,12), such as a joy-stick or key panel, adapted to move at least one of said mechanical units (1,2,3) or part thereof, **characterized** in that it comprises indication means (6,7,8,9,10,12,13,14) adapted to indicate
10 whether said at least one mechanical unit (1,2,3), or part thereof, that is to be moved is associated with any other mechanical unit(s), or part(s) thereof, and consequently indicate that the movement of said at least one mechanical unit, or part thereof, will also result in the movement of the indicated associated mechanical unit(s) or part(s) thereof.
15
2. Control system according to claim 1, **characterized** in that said indication means (6,7,8,9,10,12,13,14) provides at least one of the following signals or a combination thereof: visual,
20 acoustic, tactile.
3. Control system according to claim 1 or 2, **characterized** in that the indication means comprises a graphical and/or text interface (6) that displays which mechanical units (1,2,3), or parts thereof, are associated with one another by means of
25 graphical symbols (7,8,9,10) and/or text messages representing the plurality of mechanical units (1,2,3) or parts thereof.
4. Control system according to claim 3, **characterized** in that
30 the graphical and/or text interface (6) is arranged to indicate information on how the, or each, mechanical unit (1,2,3), or part thereof, associated with said at least one mechanical unit, or part thereof, that is to be moved will move on movement of said at least one mechanical unit or part
35 thereof.

5. Control system according to any of the preceding claims, **characterized** in that indication means are arranged on each of the mechanical units (1,2,3) or part thereof to display which mechanical units are associated with one another, either constantly or when such information is requested.
6. Control system according to any of the preceding claims, **characterized** in that the indication means (6,7,8,9,10,12,13,14) is mounted on a stationary or portable programming unit.
7. Control system according to any of the preceding claims, **characterized** in that it comprises means (11) to confirm that an operator is aware of which mechanical unit(s) or part(s) thereof will move on activation of the manually-operated control means.
8. Control system according to claim 7, **characterized** in that it comprises means adapted to disengage the manually-operated control means (5,12) until the operator has confirmed that he/she is aware of which mechanical unit(s) or part(s) thereof will move on activation of the manually-operated control means.
9. Control system according to any of the preceding claims, **characterized** in that it comprises means (14) adapted to disassociate one or more of the mechanical units (1,2,3) or parts thereof that are associated with the mechanical unit or part thereof that is to be moved from said at least one mechanical unit or part thereof that is to be moved.
10. Control system according to any of the preceding claims, **characterized** in that it comprises means (14) adapted to associate one or more of the mechanical units (1,2,3) or part thereof to said at least one mechanical unit or part thereof that is to be moved.

11. Control system according to any of claims 7-10, **characterized** in that the confirmation means (11), disassociation means or association means respectively is initiated by one click of a computer mouse or by pressing a keyboard tangent or push button, or by touching an icon on a touch screen.
12. Control system according to any of the preceding claims, **characterized** in that the manually-operated control means (5,12) is portable.
13. Control system according to any of the preceding claims, **characterized** in that the manually-operated control means (5,12) is located in the vicinity of the plurality of mechanical units (1,2,3).
14. Control system according to any of the preceding claims, **characterized** in that the manually-operated control means (5,12) is located at a location remote to the plurality of mechanical units (1,2,3).
15. Method for moving at least one of a plurality of mechanical units or part thereof, namely robots (1,2) and/or external axes (3), using manually-operated control means (5,12), **characterized** in that it comprises the step of indicating information on which mechanical units (1,2,3) or parts thereof are associated with one another and consequently indicates that movement of said at least one mechanical unit or part thereof will also result in the movement of the indicated associated mechanical unit(s) or part(s) thereof.
16. Method according to claim 15, **characterized** in that it further comprises the step of informing how the, or each, mechanical unit (1,2,3) or part thereof associated with said at least one mechanical unit or part thereof that is to be moved

will move on movement of said at least one mechanical unit or part thereof.

- 5 17. Method according to claim 15 or 16, **characterized** in that it further comprises the step of an operator having to confirm that he/she is aware of which mechanical units (1,2,3) or parts thereof are associated with said at least one mechanical unit or part thereof that is to be moved before the manually-operated control means (5,12) are activated.
- 10 18. Method according to claim 17, **characterized** in that said confirmation is initiated by one click of a computer mouse or by pressing a keyboard tangent or push button, or touching an icon on a touch screen.
- 15 19. A computer program containing computer program code means for making a computer or processor carry out the step of the method according to any of claims 15-18.
- 20 20. A computer program according to claim 19, **characterized** in that it comprises means to prompt an operator to do at least one of the following: select a mechanical unit or part thereof that is to be moved, associate or disassociate one or more other mechanical unit or part thereof with/from the mechanical unit or part thereof to be moved; confirm the selection of mechanical units or parts thereof to be moved before the operator's command is executed.
- 25 21. A computer program according to claim 19 or 20 stored by means of a computer-readable medium.
- 30 22. Use of a control system according to any of claims 1-14, a method according to any of claims 15-18 or a computer program according to any of claims 19-21 in any system comprising a plurality of mechanical units (1,2,3), namely
- 35

robots and/or external axes, which are programmed to carry out at least one task where at least two of said mechanical units or parts thereof move synchronously.

5

10

15

20

25

30

35